CLAIMS

1. Apparatus for transferring substrates to and from a printer, comprising:
   - a first storage unit for storing substrates prior to a printing operation, the first storage unit having a plurality of vertically stacked substrate supports;
   - a platen for receiving a substrate from said first storage unit, aligning the substrate with a printhead prior to a printing operation, and displacing the substrate subsequent to a printing operation to an unloading position;
   - a second storage unit for storing substrates subsequent to said printing operation, the second storage unit having a plurality of vertically stacked substrate supports;
   - wherein the first and second storage units are movable vertically with respect to the platen, and in use, relative vertical movement of the first storage unit and the platen transfers a substrate from the supports of the first storage unit to the platen, and relative vertical movement of the second storage unit and the platen transfers a substrate from the platen to the supports of the second storage unit.

2. Apparatus as claimed in Claim 1, wherein the vertically stacked substrate supports of the first and second storage units are arranged to support substrate trays for holding a plurality of substrates.

3. Apparatus as claimed in Claim 2, wherein the platen receives a substrate tray from the first storage unit, the substrate being held on said substrate tray.

4. Apparatus as claimed in Claim 2 or Claim 3, wherein a substrate tray extends lengthways across the width of the platen, the length of the tray being greater than the width of the platen.

5. Apparatus as claimed in any preceding Claim, wherein the first and second storage units comprise frames defining an interior cavity, into which the platen extends.

6. Apparatus as claimed in any preceding Claim, further comprising third and fourth storage units movable vertically relative to the platen.

7. Apparatus as claimed in Claim 6 wherein two of said storage units are arranged on a first side of the printhead, and two of said storage units are arranged on the opposing side of the printhead.

8. A method for printing substrates on a platen, the method comprising the steps of:

- printing a first substrate by imparting linear movement to the printhead, thereby causing the printhead to traverse the first substrate in a first direction;
- aligning a second substrate with the printhead, whilst reversing the direction of motion of the printhead;

- printing the second substrate by imparting linear movement to the printhead, thereby causing the printhead to traverse the second substrate in a second direction opposite to the first.

9. The method as claimed in Claim 8 wherein the substrates are aligned by imparting relative lateral movement between the platen and the printhead.

10. The method as claimed in Claim 8 or Claim 9 comprising the additional step of transferring the second substrate to the platen from a substrate storage unit.

11. The method as claimed in Claim 10 wherein the step of transferring the second substrate to the platen is carried out simultaneously with the printing of the first substrate.

12. The method as claimed in any of Claims 8 to 11 wherein the step of aligning the second substrate with the printhead also aligns the first substrate with a substrate storage unit.

13. The method as claimed in any of Claims 8 to 12 comprising the additional step of transferring the first substrate from the platen to a substrate storage unit.

14. The method as claimed in Claim 13 wherein the step of transferring the first substrate from the platen to a substrate storage unit is carried out

simultaneously with the printing of the second substrate.

15. The method as claimed in any of Claims 10 to 14 wherein the transfer of a substrate between the platen and the substrate storage unit is carried out by imparting relative vertical movement between a substrate storage unit and the platen.

16. A method for printing substrates on a platen, the method comprising the steps of:
- printing a first substrate whilst simultaneously transferring a further substrate between the platen and a substrate storage unit;
- aligning the further substrate with the printhead;
- printing the further substrate.

17. The method as claimed in Claim 16 wherein the first substrate is printed by causing the printhead to traverse the substrate in a first direction, the further substrate is printed by causing the printhead to traverse the further substrate in a second direction opposite to the first, and the step of aligning the further substrate with the printhead is carried out whilst reversing the direction of motion of the printhead.

18. The method as claimed in any of Claims 16 or 17 wherein the step of aligning the further substrate with the printhead also aligns the first substrate with a substrate storage unit.

19. The method as claimed in any of Claims 16 to 18 wherein the substrates are aligned by imparting relative lateral movement between the platen and the printhead.

20. The method as claimed in any of Claims 16 to 19 comprising the additional step of transferring the first substrate from the platen to a substrate storage unit.

21. The method as claimed in Claim 20 wherein the step of transferring the first substrate from the platen to a substrate storage unit is carried out simultaneously with the printing of the further substrate.

22. The method as claimed in any of Claims 16 to 21 wherein the transfer of a substrate between the platen and the substrate storage unit is carried out by imparting relative vertical movement between a substrate storage unit and the platen.

23. A method for printing substrates on a platen, the method comprising the steps of:

- printing a substrate by imparting linear movement to the printhead, thereby causing the printhead to traverse the substrate in a first direction, whilst simultaneously transferring a further substrate between the platen and a substrate storage unit;
- aligning the further substrate with the printhead while reversing the direction of motion of the printhead;

- printing the further substrate by imparting linear movement to the printhead, thereby causing the printhead to traverse the substrate in a second direction opposite to the first.

24. The method as claimed in any of claims 16 to 23 wherein the substrates are mounted on substrate trays.

25. The method as claimed in Claim 24 wherein the first substrate is one of a set of substrates mounted on s first substrate tray, and the second or further substrate is one of a set of substrates mounted on a second substrate tray.

26. The method as claimed in Claim 24 or Claim 25 wherein the transfer of substrates to or from the platen is by transfer of substrate trays to or from the platen.

27. The method as claimed in any of Claims 16 to 26, wherein the steps of the method are repeated for third and additional substrates or substrate trays.